Title: APPARATUS AND METHOD FOR CUTTING ELECTRODE FOIL LAYERS

## REMARKS

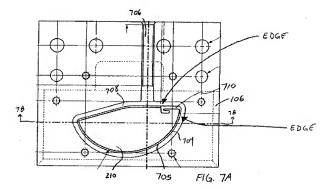
This responds to the Final Office Action dated March 16, 2010.

No claims are amended or cancelled. Claims 10-12 and 53-66 are pending in this application.

### Drawing Rejections/Objections

The drawings were objected to under 37 CFR 1.83(a). The Examiner noted that the drawings must show every feature of the invention specified in the claims. The Examiner stated that "the limitation of "the ridge including an opening to the interior of the die hole" in claims 10 and 65 must be shown or the feature(s) canceled from the claim(s)." (Page 2 of Final Office Action). The Examiner further stated "that element 705 represented a ridge does not have any discontinuous section to be called "an opening."

Applicant disagrees with the objection. Figure 7A of the application is reproduced below for reference.



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As can be seen in Figure 7A, die hole 210 is surrounded by a lubrication dam 704, which is defined by a ridge 705. A feed conduit 706 feeds lubricant to a lubrication reservoir area 708. A pre-selected area 710 is open (i.e. ridge 705 does not extend through area 710) such that lubrication delivered via conduit 706 is directed towards hole 210 only through opening 710, while dam 704 holds the lubrication back around the rest of the periphery.

For reference, Applicant has pointed out the edges of the ridge 705 that define opening 710, which is located between the edges of the ridge.

Accordingly, the subject matter of "the ridge including an opening to the interior of the die hole" in claims 10 and 65 is present in the specification; and element 705 representing a ridge does have an opening 710.

#### The Rejection of Claims Under § 112

Claims 10-12 and 64-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As discussed above, ridge 705 does include a discontinuity, which is opening 710. Reconsideration and allowance is respectfully requested.

# The Rejection of Claims Under § 103

Claims 10, 12, 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Tsubota (U.S. Patent No. 5,361,660) in view of Lyon (U.S. Patent No. 2,821,156).

Claims 10, 12, and 64

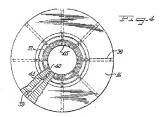
Applicant traverses. Applicant believes claim 10 is not obvious in view of the Tsubota and Lyon references since, even if combined, the combination does not include or suggest each limitation recited in the claim. For instance, Applicant cannot find in the cited combination: wherein the ridge does not extend around the entire periphery of the upper end of the die hole such that the ridge includes an opening to the interior of the die hole so as to direct the lubricant from the lubrication reservoir area behind the ridge to the interior of the die hole at the opening in the ridge; and actuating the punch to punch an electrode layer out of the sheet, wherein the

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location of the sheet at the lubrication dam ridge opening receives more lubricant than sheet locations around the rest of the periphery not at the ridge opening, as recited in claim 10.

In contrast, the Tsubota reference discusses that "[t]he cutting oil from the oil supply source 23 is mixed with air and is fed in an atomized state in the form of upward intermittent spurts from the pressurized air supply source to the interior of the cylindrical tool die 11, such that it sticks to the lower tool 7." (Col. 4, lines 13-18). Thus, the Tsubota reference discusses blowing atomized oil to cover the interior of the die.

In the Lyon reference, lubricant is delivered to the upper portion of the die to annular groove 37 by eight symmetrical passageways 41. (See Fig. 4 below; and col. 2, line 60 – col. 3, line 2). Thus groove 37 is filled equally all around with lubricant. Groove 37 includes an inner wall that extends around the entire periphery of the die hole and therefore does not include any openings to the interior of the die hole, as recited in claim 10. Instead, lubricant goes onto the workpiece from the top of the groove 37 as the piece is being stamped.



Accordingly, the combination of references does not include or suggest a ridge that does not extend around the entire periphery of the upper end of the die hole such that the ridge includes an opening to the interior of the die hole so as to direct the lubricant from the lubrication reservoir area behind the ridge to the interior of the die hole at the opening in the ridge, as recited in claim 10.

Claims 12 and 64 include each limitation of their parent claim and are therefore also not obvious in view of the cited references. Reconsideration and allowance is respectfully requested.

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### Claim 65

Applicant believes claim 65 is not obvious in view of the Tsubota and Lyon references since, even if combined, the combination does not include or suggest each limitation recited in the claim. For instance, Applicant cannot find in the cited combination: wherein the ridge does not extend around the entire periphery of the upper end of the die hole such that the ridge includes an opening to the interior of the die hole so as to direct the lubricant to a specified, predetermined location on the periphery of the open upper end of the die hole at the opening in the lubrication dam ridge to the interior of the die hole at the location where the punch will cut through the aluminum portion of the sheet and such that the specified, pre-determined location at the ridge opening to the die hole on the periphery of the open upper end of the die hole has more lubricant than other locations on the periphery of the open upper end of the die hole; and actuating the punch to punch an electrode layer out of the sheet, wherein the location of the sheet at the lubrication dam ridge opening receives more lubricant than sheet locations not at the ridge opening, as recited in claim 65.

As discussed above, neither reference includes or suggests such subject matter. Reconsideration and allowance is respectfully requested.

Claims 11 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubota in view of Lyon as applied to claims 10 and 65 above, and further in view of Klint et al. (U.S. Patent No. 3,288,715; hereinafter "Klint").

Claims 11 and 66 include each limitation of their respective parent claims and are not obvious in view of the cited references since the secondary reference does not overcome the deficiencies of the primary references discussed above. Reconsideration and allowance is respectfully requested.

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubota in view of Lyon as applied to claim 10 above, and further in view of 3M.

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Claim 57 includes each limitation of its parent claim and is not obvious in view of the cited references since the secondary reference does not overcome the deficiencies of the primary references discussed above. Reconsideration and allowance is respectfully requested.

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### CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (612) 359-3267 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria V.A. 22313-1450 on this 17th day of May. 2010.

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